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10/522,059	01/20/2005	Jun Shinozaki	MAT-8640US	1894

  

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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/522,059

Applicant(s)

SHINOZAKI ET AL.

Examiner

Rakesh K. Dhingra

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 7/12/07.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/05</u>   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION*****Response to Arguments***

Applicant's arguments with respect to claim 1-6 have been considered but are moot in view of the new ground(s) of rejection. Applicant has amended claims 1, 2, 4 and 5, for example in claim 1 new limitations "the substrate having a bottom surface, a top surface opposite the bottom surface and a side surface extending from the bottom surface to the top surface" and "from the bottom surface of the substrate along the side surface of the substrate to a height greater than a height of the substrate without being superimposed over the top surface of the substrate" have been added.

**Accordingly claims 1-6 are now pending and active.**

New reference Homme et al (US Patent No. 6,919,569) when combined with Tanaka reads on amended claims 4-6 limitations. Accordingly claims 4-6 have been rejected under 35 USC 103 (a) as explained below.

Further, applicant's argument regarding Dubs reference that substrate holder 20 shows inclined supporting surfaces along its opposing inner surfaces, is not found persuasive since claims 1, 4 do not recite any limitation about flatness of supporting surfaces of substrate holder, and Figures 5, 6 show the substrate 3 held by its periphery on the substrate holder 20 as per claim limitations.

Accordingly rejection of claims 1, 4 over Dubs in view of Tanaka is maintained since combination of these references reads on amended claims' limitations. Balance claims 2, 5, and 6 have also been rejected under 35 USC 103 (a) as explained below.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dubs (US Patent No. 5,738,729) in view of Tanaka et al (US PG PUB No. 203/0200928).**

Regarding Claims 1, 4: Dubs teaches an apparatus and method for coating (depositing) on a flat substrate (for example, Figures 5, 6) comprising:

A substrate holder 20 for a plasma display panel used for deposition on a substrate 3 of the plasma display panel, the substrate holder being held by its periphery with the frame, the substrate having a bottom surface, a top surface opposite the bottom surface and a side surface extending from the top surface to the bottom, and the frame holding the substrate being provided with a protrusion (side portion of frame 20) extending from the bottom surface of the substrate along a side surface of the substrate to a

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height greater than a height of the substrate without being superimposed over the top surface of the substrate (for example, column 5, line 50 to column 6, line 5).

Dubs does not teach plurality of frames but it is known in the art to use substrate holder with plurality of frames to enable process plurality of substrates simultaneously, as per reference cited hereunder.

Tanaka et al teach an apparatus for deposition of displays (Figure 11) comprising a frame 14 with multiple openings (like plurality of frames) for processing displays. Tanaka et al further teach that in each of frame openings an individual display can be created (paragraphs 0016, 0020-0038).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use substrate holder with plurality of frames as taught by Tanaka et al et al in the apparatus of Dubs to enable process plurality of displays simultaneously.

**Claims 2, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dubs (US Patent No. 5,738,729) in view of Tanaka et al (US PG PUB No. 203/0200928) as applied to claims 1, 4 and further in view of Patadia et al (US Patent No. 6,146,504).**

Regarding Claims 2, 5: Dubs in view of Tanaka et al teach all limitations of the claim except height of protrusion.

Patadia et al teach a deposition apparatus (Figure 1, 9) comprising a substrate support 110 for supporting a substrate and a dam 132 (protrusion) is provided around the perimeter of the substrate receiving surface of support to minimize backside deposition on the substrate. Patadia et al further teach that position and dimensions of the dam 132 (protrusion) are optimized (as a result effective variable) to prevent the reaction material reaching backside of substrate (column 7, line 65 to column 8, line 65). It would be obvious to optimize the height of protrusion as taught by Patadia et al, as per process limitations like type of gases, gas flow rate and gas pressure.

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Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the height of protrusion as taught by Patadia et al in the apparatus and method of Dubs in view of Tanaka et al to minimize backside deposition on the substrate.

**Claims 3, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dubs (US Patent No. 5,738,729) in view of in view of Tanaka et al (US PG PUB No. 203/0200928) as applied to Claims 1, 4 and further in view of Hiroki et al (US Patent No. 5,374,147).**

Regarding Claims 3, 6: Dubs in view of Tanaka et al teach all limitations of the claim including substrate holder (frame) 1 for holding substrate, but do not teach holding means including supporting means and positioning means.

Hiroki et al teach an apparatus (Figure 12) for supporting a substrate 2 by a frame 73 and where the frame comprises support means 88 and positioning means (83, 84 with stoppers 85, 86) for positioning the substrate 2 in a planar direction, wherein the substrate is held by fitting the substrate to the positioning means (83-86) and placing the substrate on the support means 88 (column 10, lines 13-63).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use frame with support means and positioning means as taught by Hiroki et al in the apparatus and method of Dubs et al in view of Tanaka et al to ensure correct positioning of the substrate.

**Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Homme et al (US Patent No. 6,919,569) in view of Tanaka et al (US PG PUB No. 203/0200928).**

Regarding Claim 4: Homme et al teach an apparatus for deposition (for example, Figure 7) comprising:

A substrate holder 200 for a display panel used for deposition on a substrate 1, the substrate holder being configured with a frame, the substrate 1 being held by its periphery with the frame, the

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substrate 1 having a bottom surface, a top surface opposite the bottom surface and a side surface extending from the top surface to the bottom surface, and the frame holding the substrate being provided with a protrusion 200a extending from the bottom surface of the substrate along a side surface of the substrate to a height greater than a height of the substrate without being superimposed over the top surface of the substrate (for example, Figure 7 and column 4, lines 16-50).

Homme et al do not teach the substrate holder being configured with plurality of frames.

Tanaka et al teach an apparatus for deposition of displays (Figure 11) comprising a frame 14 with multiple openings (like plurality of frames) for processing displays. Tanaka et al further teach that in each of frame openings an individual substrate can be disposed for processing (paragraphs 0016, 0020-0038). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use substrate holder with plurality of frames as taught by Tanaka et al et al in the apparatus of Homme et al to enable process plurality of substrates simultaneously.

Further, claim limitation reciting a plasma display as substrate is an intended use limitation and since the prior art apparatus meets the structural limitations of the claim, the same is considered capable of meeting the intended use limitations.

In this connection courts have ruled:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

**Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Homme et al (US Patent No. 6,919,569) in view of Tanaka et al (US PG PUB No. 203/0200928) as applied to claim 4 and further in view of Patadia et al (US Patent No. 6,146,504).**

Regarding Claim 5: Homme et al in view of Tanaka et al teach all limitations of the claim except height of protrusion.

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Patadia et al teach a deposition apparatus (Figure 1, 9) comprising a substrate support 110 for supporting a substrate and a dam 132 (protrusion) is provided around the perimeter of the substrate receiving surface of support to minimize backside deposition on the substrate. Patadia et al further teach that position and dimensions of the dam 132 (protrusion) are optimized (as a result effective variable) to prevent the reaction material reaching backside of substrate (column 7, line 65 to column 8, line 65). It would be obvious to optimize the height of protrusion as taught by Patadia et al, as per process limitations like type of gases, gas flow rate and gas pressure.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the height of protrusion as taught by Patadia et al in the apparatus of Homme et al in view of Tanaka et al to minimize backside deposition on the substrate.

**Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Homme et al (US Patent No. 6,919,569) in view of Tanaka et al (US PG PUB No. 203/0200928) as applied to Claim 4 and further in view of Hiroki et al (US Patent No. 5,374,147).**

Regarding Claim 6: Hommes et al in view of Tanaka et al teach all limitations of the claim including frame 200 for holding substrate, but do not teach holding means including supporting means and positioning means.

Hiroki et al teach an apparatus (Figure 12) for supporting a substrate 2 by a frame 73 and where the stage is comprises support means 88 and positioning means (shoes 83, 84 with stoppers 85, 86) for positioning the substrate 2 in a planar direction, wherein the substrate is held by fitting the substrate to the positioning means (83-86) and placing the substrate on the support means 88 (column 10, lines 13-63).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use frame with support means and positioning means as taught by Hiroki et al in the apparatus of Homme et al in view of Tanaka et al to ensure correct positioning of the substrate.



*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh K. Dhingra whose telephone number is (571)-272-5959. The examiner can normally be reached on 8:30 -6:00 (Monday - Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571)-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Rakesh K. Dhingra



Karla Moore  
Primary Examiner  
Art Unit 1763